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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,298	09/21/2000	Jacobus C. Haartsen	040071-247	8507

21839 7590 03/24/2004

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EXAMINER

NGUYEN, TOAN D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/666,298

Applicant(s)

HAARTSEN, JACOBUS C.

Examiner

Toan D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is more than 150 words.

Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

3. Claims 23 and 31 are objected to because of the following informalities:

In claim 23 line 6, it is suggested to change "the overlap." to --- the frequency overlap. ---

In claim 31 line 6, it is suggested to change "the overlap." to --- the frequency overlap. ---

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. Claims 5-6, 8-9, 14, 17-18 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5 line 5, recites the limitation “adapting the location” lack clear antecedent basis.

In claim 6 line 4, recites the limitation “the adapted location” lack clear antecedent basis.

In claim 8 line 4, it is unclear as to what is meant by “avoids the location of the slow frequency hopping “. Therefore, the scope of the claim is unascertainable.

In claim 9 line 6, recites the limitation “the location of the slow frequency hopping” lack clear antecedent basis.

In claim 14 line 5, recites the limitation “adapt the location” lack clear antecedent basis.

In claim 17 line 5, it is unclear as to what is meant by “avoids the location of the slow frequency hopping “. Therefore, the scope of the claim is unascertainable.

In claim 18 lines 6-7, recites the limitation “the location of the slow frequency hopping” lack clear antecedent basis.

Claim 25 is missing. Therefore, claim 26 is rejected since it is dependent on claim 25.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1, 8, 10, 17, 19, 24, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (U.S. Patent 6,519,245 B1).

For claim 1, Bird discloses communication system having dedicated time slots for selection signals, the method comprising the steps of:

establishing a fast frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and

establishing a slow frequency hopping traffic channel between a third and a fourth communication unit, the slow frequency hopping traffic channel having a second set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-29 and col. 5 lines 37-61).

However, Bird does not disclose a first, a second communication unit, a third and a fourth communication unit. To include communication units would have been obvious to one of ordinary skill in the art since Bird discloses the communication system of the present invention includes at least two hubs for transmitting selection signals and receiving and transmitting operational signals (figure 1, col. 2 lines 7-10).

For claim 8, Bird discloses further comprising the steps of:

establishing the fast frequency hopping traffic channel between the first, the second, and the third communication unit (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and

wherein the fast frequency hopping traffic channel avoids the location of

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the slow frequency hopping traffic channel and wherein a beacon packet is transmitted to the third communication unit, the beacon packet containing frequency hopping related information (col. 2 lines 7-30).

For claim 10, Bird discloses communication system having dedicated time slots for selection signals, the apparatus comprising:

wherein the first communication unit is configured to:

establish a fast frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and

establish a slow frequency hopping traffic channel between the third and the fourth communication unit, the slow frequency hopping traffic channel having a second set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-29 and col. 5 lines 37-61).

However, Bird does not disclose a first, second, third, and fourth communication unit coupled together over an air interface. To include a first, second, third, and fourth communication unit coupled together over an air interface would have been obvious to one of ordinary skill in the art since Bird discloses the communication system of the present invention includes at least two hubs for transmitting selection signals and receiving and transmitting operational signals (figure 1, col. 2 lines 7-10).

For claim 17, Bird discloses wherein the first communication unit is further configured to establish the fast frequency hopping traffic channel between the first, the

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second, and the third communication unit (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and wherein the fast frequency hopping traffic channel avoids the location of the slow frequency hopping traffic channel and wherein a beacon packet is transmitted to the third communication unit, the beacon packet containing frequency hopping related information (col. 2 lines 7-30).

For claim 19, Bird discloses communication system having dedicated time slots for selection signals, the method comprising the steps of:

establishing a frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and

establishing a static traffic channel between a third and a fourth communication unit, the static traffic channel having a carrier frequency within the frequency spectrum (figure 5, col. 3 lines 13-29 and col. 5 lines 37-61).

However, Bird does not disclose a first, a second communication unit, a third and a fourth communication unit. To include communication units would have been obvious to one of ordinary skill in the art since Bird discloses the communication system of the present invention includes at least two hubs for transmitting selection signals and receiving and transmitting operational signals (figure 1, col. 2 lines 7-10).

For claim 24, Bird discloses further comprising the steps of:  
establishing the frequency hopping traffic channel between the first, the second, and the third communication unit (col. 2 lines 7-30); and  
wherein a beacon packet is transmitted to the third communication unit, the

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beacon packet associated with the frequency hopping traffic channel (col. 2 lines 7-30).

For claim 27, Bird discloses communication system having dedicated time slots for selection signals, the apparatus comprising:

establish a frequency hopping traffic channel between the first and the second communication unit, the frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum (figure 5, col. 3 lines 13-32 and col. 5 lines 37-67); and

establish a static traffic channel between the third and the fourth communication unit, the static traffic channel having a carrier frequency within the frequency spectrum (figure 5, col. 3 lines 13-29 and col. 5 lines 37-61).

However, Bird does not disclose an air interface and a first, second, third, and fourth communication unit coupled together over an air interface. To include an air interface, a first, second, third, and fourth communication unit coupled together over an air interface would have been obvious to one of ordinary skill in the art since Bird discloses the communication system of the present invention includes at least two hubs for transmitting selection signals and receiving and transmitting operational signals (figure 1, col. 2 lines 7-10).

For claim 32, Bird disclose wherein the first communication unit is further configured to establish the frequency hopping traffic channel between the first, the second, and the third communication unit (col. 2 lines 7-30); and wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel (col. 2 lines 7-30).



7. Claims 2-3, 11-12, 20-21 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (U.S. Patent 6,519,245 B1) in view of Ishifuji et al. (U. S. Patent 6,061,389).

For claims 2-3, 11-12, 20-21 and 28-29, Bird does not disclose the step of communicating one or more first data packets on one or more of the set of the plurality of time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s. In an analogous art, Ishifuji et al. disclose the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28). Ishifuji et al. disclose further comprising the step of communicating one or more first data packets on one or more of the set of the plurality of time slots from the third communication unit to the fourth communication unit over the slow frequency hopping traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 3); wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28 as set forth in claim 11); wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the third communication unit to the fourth communication unit over the slow frequency hopping traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 12); the step of communicating one or more first data packets on one or more of the set of the plurality of time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3

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Mb/s (col. 2 lines 23-28 as set forth in claim 20); the step of communicating one or more first data packets from the third communication unit to the fourth communication unit over the static traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 21); wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28 as set forth in claim 28); wherein the third communication unit is further configured to communicate one or more first data packets from the third communication unit to the fourth communication unit over the static traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 29).

One skilled in the art would have recognized the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s to use the teachings of Ishifuji et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s as taught by Ishifuji et al. in Bird's system with the motivation being arranged so that one hop occurs within some symbols (col. 2 lines 23-26).

8. Claims 4, 13, 22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (U.S. Patent 6,519,245 B1) in view of Huang et al. (U. S. Patent 5,448,569).

For claims 4, 13, 22 and 30, Bird does not disclose wherein the step of establishing the slow frequency hopping traffic channel further comprises the step of establishing an initial location of the slow frequency hopping traffic channel according to a slow hop sequence. In an analogous art, Huang et al. disclose wherein the step of establishing the slow frequency hopping

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traffic channel further comprises the step of establishing an initial location of the slow frequency hopping traffic channel according to a slow hop sequence (col. 9 lines 47-58).

Huang et al. disclose further wherein the first communication unit, in establishing the slow frequency hopping traffic channel, is further configured to establish an initial location of the slow frequency hopping traffic channel according to a slow hop sequence (col. 9 lines 47-58 as set forth in claim 13); wherein the step of establishing the static traffic channel further comprises the step of establishing an initial location of the static traffic channel according to dynamic channel allocation (col. 9 lines 47-58 as set forth in claim 22) ; wherein the first communication unit, in establishing the static traffic channel, is further configured to establish an initial location of the static traffic channel according to dynamic channel allocation (col. 9 lines 47-58 as set forth in claim 30).

One skilled in the art would have recognized the step of establishing an initial location of the slow frequency hopping traffic channel according to a slow hop sequence to use the teachings of Huang et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the step of establishing an initial location of the slow frequency hopping traffic channel according to a slow hop sequence as taught by Huang et al. in Bird's system with the motivation being to provide both bases and portable can deduce both the frequency hopping pattern and the superframe delay of a neighboring base from the base's location index (col. 9 lines 47-51).

***Allowable Subject Matter***

9. Claims 5-7, 9, 14-16, 18, 23, 31 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claim 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Contact Information***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 703-308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN

T.N.



**ALPUS H. HSU  
PRIMARY EXAMINER**